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ABSTRACT

A number of first language (L1) research studies are examined in an attempt to discover whether the hypothesized similarity between L1 acquisition and second language (L2) learning has any empirical support. The relationship between age and language learning is considered to determine if there are changes in learning ability, rate of learning and learning strategies with age. Studies show child language to be self-contained, internally consistent, systematic, and not dependent on the full adult system. Adults usually correct children's speech for content rather than syntax. Language learning appears to be a "creative construction" process; children make a series of hypotheses about the L1 as they learn it to explain the data they encounter. Studies of children learning various first languages suggest a universality of basic stages and processes. Language teachers should reduce monotonous syntactic practice and devise techniques and exercises to help L2 students perceive, internalize and use language patterns to express their own meanings. Some studies infer that language learning ability decreases with age, but there is no experimental evidence to support this. Contextual support is an important difference between L1 and L2 learning; if adults learn in settings offering opportunities for frequent meaningful communication, rate and quality of L2 learning should improve. (CHK)

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A Comparison of First and Second Language Learning

When Chomsky stated that "the problem of internal justification — of explanatory adequacy — is essentially the problem of constructing a theory of language acquisition, an account of the specific innate abilities that make this achievement possible"[1] he was highlighting one of the main areas of interest to transformational grammarians. This interest continues to be a central issue in psycholinguistics. In pursuing it, linguists and psycholinguists have gained new insights into the way a child acquires the ability to speak his first language (L1) and particularly into the development of the child's grammatical system. In this paper I shall examine a number of L1 research studies in an attempt to discover whether the hypothesized similarity between L1 acquisition and second language (L2) learning has any empirical support. I shall then consider the question of age and language learning to see if there are actually any changes in learning ability, rate of learning and learning strategies as the individual grows older.

Is L1 like L2?

In recent years two major changes can be noted in the views expressed by researchers studying L1 acquisition. One is that linguists are now beginning to pay increasing attention to meaning. They now realize that the function of language in the life of the child is of paramount importance in his acquisition of his mother tongue (Bloom[2], Schlesinger[3], Parisi *et al.*[4], Brown[5]). The second major change is that the mechanical S-R view that "practice makes perfect" has been abandoned because of abundant evidence from empirical studies showing that practice and imitation are of negligible importance in L1 development. In addition, it has been demonstrated that children who have never learned to speak can nevertheless have a highly developed comprehension of language. I shall return to these two points later.

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Studies of L1 acquisition have grown rapidly in recent years and have undergone other important theoretical changes. For instance, early studies viewed child language as an incomplete form of adult speech which gradually developed into the "correct" adult grammar through a process of selective reinforcement. However, the re-examination of L1 acquisition in the light of transformational grammar has shown that child language is self-contained, internally consistent, systematic, and does not depend on the full adult system. The child's mind is not *tabula rasa*. Furthermore he does not simply imitate adult speech incorrectly, but is actually an active learner who structures the input and creates rules of his own that are simpler than those of the adult grammar. This the child does without the help of explicit teaching, positive reinforcement of correct structures, or corrections of incorrect structures (Burt and Dulay[6]). Reinforcement plays a strong role in the S-R theory of language acquisition, but research has shown that mothers rarely spend much time and effort in correcting their children's grammar, especially that of two-year-olds. Brown, Cazden and Bellugi[7] examined mother-child interaction for two kinds of reinforcement in relation to development : corrections, and failures to understand. They found no relationship between developmental rates and reinforcement. The mothers in this study very rarely corrected formal syntactic structures. Instead they corrected mistakes in content or truth value.

The researchers state:

> It seems, then, to be the truth value rather than syntactic well-formedness that chiefly governs explicit verbal reinforcement by parents – which renders mildly paradoxical the fact that the usual product of such a training schedule is an adult whose speech is highly grammatical but not notably truthful.[8]

Apparently adults listening to children's speech are usually more interested in the message than in the form in which it is conveyed. The evidence shows that they are concerned with formal syntax only if it includes lexical items such as obscenities and other socially marked expressions. In this respect the typical L2 learner, whether child or adult, stands in sad contrast to the L1 learner. Macnamara's[9] theory of the supremacy of meaning in language learning underscores trast clearly:

> The argument rests upon the nature of language and its relation to thought . . . The theory claims that the main thrust in language learning comes from the child's need to understand and express himself . . . The teacher seldom has anything to say to his pupils so important that they will eagerly guess his meaning. And the pupils seldom have anything so urgent to say to the teacher that they will improvise with whatever communicative skills they possess to get their meaning across. If my analysis of infant language learning is correct, and I believe it to be, it can surely explain the difference between the street and the classroom without placing any serious strain on the analogy between first and second language learning.[10]

In addition to recent developments in psycholinguistic research, observations of the fact that L1 acquisition is successful, "virtually fool-proof," (Stern[11]) and L2 learning is not, have led to a re-examination of the relationship between the process of acquiring a first language and that of L2 learning. All this has resulted in the general conclusion that the two processes are basically similar but that methods of L2 teaching have not capitalized on the similarities.

Burt and Dulay[12] maintain that like L1 acquisition, L2 learning is also a "creative construction" process in which learners, both children and adults, try to construct the language as they learn it and create rules similar to those created by children learning their native language. This approach supports the hypothesis-testing model of L1 acquisition (Chomsky[13], McNeill[14]). In this framework, the child is seen to be making a series of hypotheses about the structure of his native language as he learns it. Each successive hypothesis is an interim grammar which accounts for the data he is exposed to. These developmental stages have been thoroughly explored in longitudinal L1 studies over the past twenty years. These studies have reached a high degree of descriptive adequacy, and some explanatory adequacy has been achieved by various attempts to show the order of acquisition of certain aspects of the language such as negation, grammatical morphemes, rules and exceptions.

A good illustration of the "stages" model of L1 learning can be found in the work of Klima and Bellugi[15] on the acquisition of negation in English:

STAGE 1: The negator is external to the sentence — "no singing song," "no the sun shining," "touch the snow no."

STAGE 2: The negative element is internal, preceding the predicate — "he no bite you," "I no taste them," "that no Mommy."

STAGE 3: Here the use of modals, copula and do-support appears— "I don't want cover on it," "you didn't caught me," "Paul can't have one."[16]

It is obvious that at stage three, the two-and-a-half year old child whose sentences are quoted above is using a common rule which applies to modals, copulas and "do." This enables him to simplify matters considerably. But the most important point to note here is that, at this stage, all three children in the study also began to use general patterns in interrogative inversion and ellipsis which demonstrated the presence of the auxiliary as a common underlying unit in their grammar.

Theories of imitation and reinforcement cannot account for these data. For instance, a careful examination of the corpus reveals that the children used a common pattern for three different sentence types: equating sentences, main verb sentences, and modals. This

must clearly be based on a kind of class abstraction which was quite well developed by stage three. Furthermore, while it is possible to find an underlying semantic unity in children's usage of noun phrases and locative phrases, the auxiliary "do" in the sentence "Do you like milk?" has no overt meaning. This semantically empty but syntactically indispensable morpheme has to be acquired without reference to events in the real world or to internal meanings. Its use by the children in this study shows that at this point in the acquisition of their native language they were able to deal very effectively with formal, abstract representations.

Ravem[17] gives an interesting account of the development of the auxiliary by his six-year-old Norwegian-speaking son learning English in a natural setting in Scotland. In learning the system of negation in English, Ravem's son, Rune, followed a developmental sequence similar to the children in the Klima and Bellugi study examined above. In addition, Ravem states that Rune did not invert the subject and the auxiliary in *wh* questions where inversion would be redundant. The McNeill's[18] and Milon[19] have reported a similar development in Japanese children learning English. McNeill and McNeill conclude that "the emergence of negation in English as well as in Japanese is a portrait of a child's resolution of complexity" and Milon states:

> The developmental stages for three native speakers of English and a second language learner occur in exactly the same sequence and within almost exactly identical syntactic parameters as with Klima and Bellugi's subjects.[20]

In addition, studies of children learning the following first languages all suggest a universality of basic stages and processes: Russian, Samoan, Finnish, and several Mayan languages.

Since longitudinal studies of L2 learning are lacking, a "stage" theory of this process does not have empirical support; obviously, results from L1 studies should not be uncritically applied to adults learning a second language. However, one ongoing L2 study (Hatch[21]) offers some encouragement to those who hypothesize a similar developmental sequence for adult L2 learning as in L1. It is possible that an approach which treats the stages through which the learner progresses as self-contained will be as fruitful in L2 learning theory as it has been in the case of L1.

Acceptance of the hypothesis-testing or "creative construction" model for L2 learning would involve a rejection of the "habit formation" theory which underlies the audio-lingual method, and the adoption of a cognitive code-learning theory (Burt and Dulay[22]). Such a change in theoretical orientation should lead to a re-examination of many existing L2 teaching programs to include more meaningful learning of the language in situationally appropriate contexts, with emphasis on the development of communicative com-

petence in the target language from the very beginning. Thus students would not be drilled from the outset in the production of perfectly grammatical but situationally inappropriate and semantically empty sentences. Anyone who is currently involved in learning a second language in a classroom can testify to the prominence of these old and unproductive techniques. Although such terms as "situational language teaching," "the language experience approach," and "the thematic integrated approach" are frequently discussed in books and articles on L2 teaching, and although L2 theorists and writers of methods texts constantly stress the importance of eclecticism, the fact is, the majority of teachers of adults and adolescents are still using the audio-lingual method. It is also true that the creators of many "audio-visual" teaching materials have simply added pictures to what was originally audio-lingual in theory and construction.

As mentioned above, L1 acquisition studies have tended to show that practice does not necessarily make perfect. Ervin-Tripp[23] demonstrated that the children in her study had correctly learned irregular past forms like *came* and *did*, and had used them correctly a number of times, yet, when they started to produce regular past forms, they overgeneralized the irregular forms to *comed* and *doed* in spite of previous practice. She concluded: "Apparently patterns weigh more heavily with children than frequency of repetition does."[24] If this insight is applied to L2 learning, the injunction of Lado that "the student must be engaged in practice most of the time"[25] would have to be seriously re-examined by textbook writers and L2 teachers who are still influenced by it. If practice and overlearning are as unproductive in L2 learning as in L1, and I believe they are, then the teacher might do well to devote less time to the monotonous practising of syntactic structures with no informational sequence, and devise techniques and exercises to help L2 students perceive, internalize, and use the patterns of the language to express their own meanings.

Another important but somewhat undeveloped area of L1 acquisition research is comprehension. Studies of comprehension provide evidence for the hypothesis that understanding precedes production; children do seem to comprehend speech long before they begin to speak. There is some evidence for the assumption that speech is not necessary to language acquisition. Lenneberg's[26] report of an anarthric child (one who did not produce speech yet developed normal comprehension of it) makes the point very strongly. This child passed all the rigidly controlled comprehension tests devised and administered by Lenneberg. Also the implication of the morphological development in the learning of Russian as a native language[27] is unquestionably that neither the most frequently heard structures nor the most frequently produced forms remain dominant

during early development. However, the hypothesis is that specific grammatical features are understood before they are produced. One reason for this may be that while the listener can listen "with half an ear" and depend on redundancy to aid his comprehension, the speaker has to make explicit choices if he wants to be understood. Fraser, Bellugi and Brown[28] developed a technique known as ICP (Imitation, Comprehension, Production) to investigate this hypothesis. The findings from their experiments seem to indicate that semantic complexity and cognitive immaturity are the constraints on production during the early stages of L1 development. The work of Sinclair-de-Zwart[29] on the acquisition of French passives by somewhat older Swiss children replicate these findings.

This seems to suggest that the greater cognitive maturity of the adolescent and adult L2 learner should be capitalized on. Ervin-Tripp[30] states:

> Languages tend to have similar semantic content. By and large, the major changes we find in the acquisition of the mother tongue with age are related to semantic development.[31]

It seems reasonable to suggest then, that since the adult has a more highly developed semantic system than the child, he/she merely needs to discover a new symbolic representation. When learning a second language there will obviously be mistakes in areas where there are semantic differences, but these should be relatively unimportant when compared to the task faced by a child learning his native language at a similar stage of syntactic development.

age and language learning

Chomsky[32], Lenneberg[33], McNeill[34], and others have argued pursuasively that the human being is innately suited to learning languages. At the same time, many arguments have been advanced to account for sharp age changes in language learning ability as well as in lateralization related to linguistic functions after traumatic aphasia. One well known suggestion is that there is a "critical period" for L1 acquisition. With regard to L2 learning, the literature on age can be divided into two main classifications: theory and experimental research.

The theoretical support comes from inferences drawn from psychological and physiological investigation. One example is the brain plasticity theory (Penfield and Roberts[35], Asher and Garcia[36]). According to this theory, the younger child has a "cerebral receptivity" to language acquisition which may be due to lack of cortical specialization. As the child matures, the organization of the cerebral cortex becomes more specialized, and the individual's capacity to learn a second language tends to decrease.

Lenneberg[37], summarizing case histories of brain damage with aphasia, infers a physiological age limitation for normal *first language* acquisition. Nowhere does he suggest (as is often stated) that adults are incapable of acquiring a second language. He maintains that age seems to influence most the retention of a foreign accent and the ability to learn a foreign language just from exposure in the natural setting. Asher and Garcia[38] suggested that the child's language facility in the natural setting may be due to the physically active play contexts in which the learning takes place, whereas the situation is quite different in the case of adults.

There is no experimental evidence to support the theory that the ability to learn a second language decreases with age. A comprehensive examination of the literature has revealed no study offering unequivocal evidence that the child has a special language learning competency absent in the adult, or that the younger adult is superior to the older. To a certain extent adults were slightly more proficient than children in two studies conducted by Asher and Price[39] and by Yeni-Komishan *et al.*[40] Their findings substantiate Ausubel's[41] theory that adults can acquire new languages more readily than children because children's cognitive immaturity and lack of certain intellectual skills preclude many approaches that are feasible for adults.

Thus it appears that an important difference between children learning their first language and adults learning a second language is the contextual support for the learning. Although it is obvious that the contexts for L1 acquisition cannot be duplicated in L2 learning, if adults learn a second language in settings which offer opportunities for frequent meaningful communication, the rate and quality of L2 learning might even prove greater than L1 acquisition. In cases where adults have been unsuccessful in learning a second language it may well be that they lack the motivational and attitudinal characteristics which Gardner and Lambert[42] and H. Douglas Brown[43] have found to be conducive to successful L2 learning. For instance, it would be useful to study the effect of inhibition on adult L2 learning — particularly culturally induced inhibition in certain environments. It might well be possible to show that the adverse effects of this particular variable are greater than is commonly thought.

It is true, however, that a child learning his native language acquires the pronunciation of the regional and social dialect to which he is exposed while this is rarely the case with the adult learning a second language. Here again personality and ability, as well as physiological variables might all be at work to some degree. Theorizing in this area far outweighs supporting research. There is, however, little reason to believe and ample evidence to disprove the assertion that pronunciation is an indication of special language

competence — communication is certainly possible without perfect pronunciation. The redundancies inherent in language are such that mispronunciation and a "foreign accent" are the least handicaps to communication. People like Henry Kissinger might still speak English "with an accent" but no one can doubt Kissinger's ability to communicate effectively in the language.

We realize, however, that some theoretical rationale had been offered for treating first and second language learning as different. According to this view, L2 learning is based on transfer from the first language and so can tell us nothing more general about language learning (Bever and Weskel[44]). It is certainly correct that the L2 learner uses previous knowledge, skills and strategies, but this is equally true of the child learning his native language. In other words, any learning must make use of previous knowledge although it remains to be explained just how this is done. It seems obvious that the young child of eighteen months or two years learning his mother tongue possesses some general knowledge of his immediate environment, of spatial orientation and of causality which a child of one has not yet developed. Piaget's work offers experimental support here. Similarly, a child of four, hearing a completely new sentence, can bring to it awareness of sound groupings, recognition of familiar patterns, expectations about basic syntax-meaning configurations which the child of one does not have (Ervin-Tripp[45]).

Thus the fact that the L2 learner builds on previously acquired concepts is not what differentiates L2 learning from L1 acquisition. The parallelism between L1 and L2 will be carried too far if the following factors are not taken into consideration:

— the cognitive maturity of the older L2 learner
— the differences in learning contexts
— affective variables relevant to the adolescent and adult L2 learner.

Failure to recognize these differences can lead to an oversimplification of the issues involved in the learning process, to the detriment of the learner.

Finally, to return to Chomsky's[46] innateness hypothesis with which this paper began — if the human brain is particularly suited for language learning, there is no good reason to suppose, other things being equal, that this ability would atrophy after the acquisition of L1. Given a high degree of integrative motivation on the part of the learner, plus the use of methods and materials to suit his interest and needs, the adult L2 learner could be involved in a very satisfying process, resulting in his ability to communicate effectively with people of other linguistic and cultural groups.

references

1. Noam Chomsky, *Aspects of The Theory of Syntax*, Cambridge, Mass.: MIT Press, 1965, p. 27.
2. Lois Bloom, *Language Development: Form and Function in Emerging Grammars*, Cambridge, Mass.: MIT Press, 1970.
3. I. M. Schlesinger, "Production of Utterances and Language Acquisition," *The Ontogenesis of Grammar*, Dan Slobin, ed., New York: Academic Press, 1971, pp. 63-101.
4. Domenico Parici and Francesco Antinucci, "Early Language Acquisition: A Model and Some Data," *Studies of Child Language Development*, Charles Ferguson and Dan Slobin, eds., New York: Holt, Rinehart and Winston, 1973, pp. 607-619.
5. Roger Brown, *A First Language*, Cambridge, Mass.: Harvard University Press, 1973.
6. Marina Burt and Heidi Dulay, "Natural Sequences in Child Second Language Acquisition," *Working Papers in Bilingualism*, Toronto: O.I.S.E., 1974, pp. 44-67.
7. Roger Brown, Courtney Cazden, and Ursula Bellugi, "The Child's Grammar from I-III," *Minnesota Symposia on Child Psychology*, Vol. 2, J. P. Hill, ed., Minneapolis: University of Minnesota Press, 1968, pp. 28-73.
8. *Ibid.*, p. 60.
9. John Macnamara, "Nurseries, Streets and Classrooms: Some Comparisons and Deductions," *Modern Language Journal*, 57, 1973, pp. 250-254.
10. *Ibid.*, pp. 250-251.
11. H. H. Stern, *Perspectives on Second Language Teaching*, Toronto: Modern Language Center Publications, No. 1, 1970, p. 57.
12. Burt and Dulay, *op. cit.*
13. Noam Chomsky, "Review of Skinner's Verbal Behavior," *The Psychology of Language, Thought and Instruction*, John DeCecco, ed., 1959, pp. 325-339.
14. David McNeill, *The Acquisition of Language: The Study of Developmental Psycholinguistics*, New York: Holt, Rinehart and Winston, 1970.
15. Edward Klima and Ursula Bellugi, "Syntactic Regularities in the Speech of Children," in Charles Ferguson and Dan Slobin, *op. cit.*, pp. 333-5.
16. *Ibid.*, pp. 341-344.
17. Roar Ravem, "Language Acquisition in a Second Language Environment," *IRAL*, 6, 1968, pp. 175-185.
18. David McNeill and N. B. McNeill, "What Does a Child Mean When He Says 'No'?" *Proceedings of the Conference on Language Behavior*, E. Zale, ed., New York: Appleton-Century, 1968, pp. 51-69.
19. John Milon, "The Development of Negation in English by a Second Language Learner," *TESOL Quarterly*, Vol. 8, No. 2, 1974, pp. 137-144.
20. *Ibid.*, p. 142.
21. Evelyn Hatch, "Second Language Learning — Universals?" *Working Papers in Bilingualism*, Toronto: O.I.S.E., 1974, pp. 1-17.
22. Burt and Dulay, *op. cit.*
23. Susan Ervin-Tripp, "Imitation and Structural Change in Children's Language," Charles Ferguson and Dan Slobin, *op. cit.*, pp. 391-405.
24. *Ibid.*, p. 404.
25. Robert Lado, *Language Teaching: A Scientific Approach*, New York: McGraw Hill, 1964, p. 56.
26. Eric Lenneberg, "Understanding Language Without Ability to Speak: A Case Report," *Journal of Abnormal and Social Psychology*, 65, 1962, pp. 419-425.

27. Dan Slobin "Early Grammatical Development in Several Languages With Special Attention to Soviet Research," *The Structure and Psychology of Language*, W. Weskel and T. Bever, eds., New York: Holt, Rinehart and Winston, 1966.
28. Colin Fraser, Ursula Bellugi and Roger Brown, "Control of Grammar in Imitation, Comprehension and Production," *Journal of Verbal Learning and Verbal Behavior*, 2, 1963, pp. 121-135.
29. H. Sinclair-de-Zwart, "A Possible Theory of Language Acquisition Within the General Framework of Piaget's Developmental Theory," *Language and Thinking*, P. Adams, ed., London: Penguin, pp. 364-374.
30. Susan Ervin-Tripp, "Is Second Language Learning Like the First?" *TESOL Quarterly*, Vol. 8, No. 2, 1974, pp. 111-128.
31. *Ibid.*, p. 122.
32. Chomsky, *op. cit.*
33. Eric Lenneberg, *Biological Foundations of Language*, New York: Wiley, 1967.
34. McNeill, *op. cit.*
35. W. Penfield and L. Roberts, *Speech and Brain Mechanisms*, New Jersey: Princeton University Press, 1959.
36. J. Asher and R. Garcia, "The Optimal Age to Learn a Foreign Language," *Modern Language Journal*, 8, 1969, pp. 334-341.
37. Lenneberg, *op. cit.*
38. Asher and Garcia, *op. cit.*
39. J. Asher and B. Price, "The Learning Strategy of the Total Physical Response," *Child Development*, 38, 1967, pp. 1219-1227.
40. G. Yeni-Komishan, *et al.*, *A Pilot Study on the Ability of Young Children and Adults to Identify and Pronounce Novel Speech Sounds*, Baltimore: Neurocommunications Laboratory 1968.
41. David Ausubel, "Cognitive Structure and the Facilitation of Meaningful Verbal Learning," *Journal of Teacher Education*, 14, 1963, pp. 217-221.
42. Robert Gardner and Wallace Lambert, *Attitudes and Motivation in Second Language Learning*, Rowley, Mass.: Newbury House, 1972.
43. H. Douglas Brown, "Affective Variables in Second Language Acquisition," *Language Learning*, Vol. 23, No. 2, 1973, pp. 231-243.
44. T. Bever and W. Weskel, "On the Acquisition of Syntax: A Critique of Contextual Generalization," *Psychological Review*, 72, 1965, pp. 467-482.
45. Ervin-Tripp, *op. cit.*, p. 112.
46. Chomsky, *Aspects of the Theory of Syntax.*